ONTARIO MINISTRY OF ENVIRONMENT
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1973

OPERATING SUMMARY

AMHERSTBURG

WATER TREATMENT PLANT

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Amherstburg : water supply
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AMHERSTBURG

WATER SUPPLY SYSTEM

MINISTRY OF THE ENVIRONMENT

1973 ANNUAL OPERATING SUMMARY

prepared by

Plant Performance Unit

TECHNICAL SERVICES BRANCH

T. Cross, Director

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DESIGN DATA

Project Name: Town of Amherstburg WTP

Project Number: 5-0026-66

Nominal Capacity: 4.0 MGD

TRAVELLING SCREEN

Type: LINK BELT Model 45A
Size: 6' x 22'
Capacity: 12 MGD
Wash: 165 GPM at 100 PSIG

LOW LIFT PUMPS

- 2, Type: JOHNSTON Model 14DC
  Capacity: (each) 1700 USGPM at 70' TDH
- 1, Type: JOHNSTON Model 20DC
  Capacity: 4200 USGPM at 70' TDH

CLARIFIER

Type: GRAVER Reactivator
Size: 65' dia. x 16' swd.
Capacity: 4.0 MGD
Loading: 0.95 IGPM/Ft.^{2}

WASH WATER PUMP

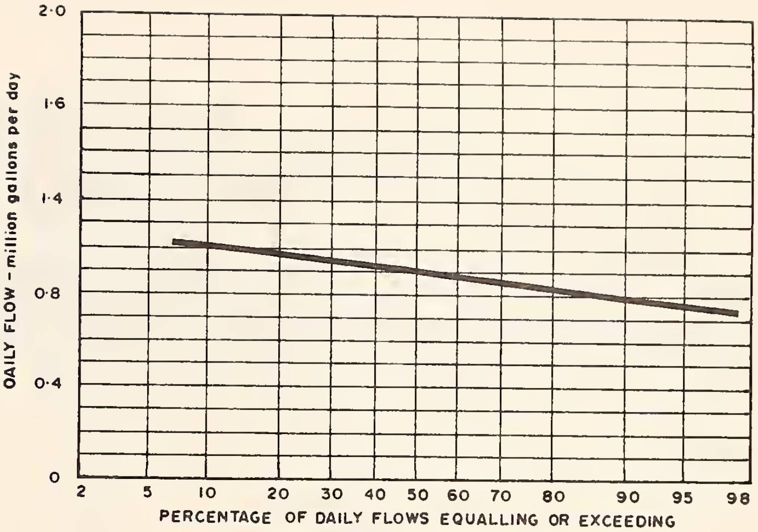
Type: JOHNSTON Model 16MS
Capacity: 6500 usgpm at 45' TDH

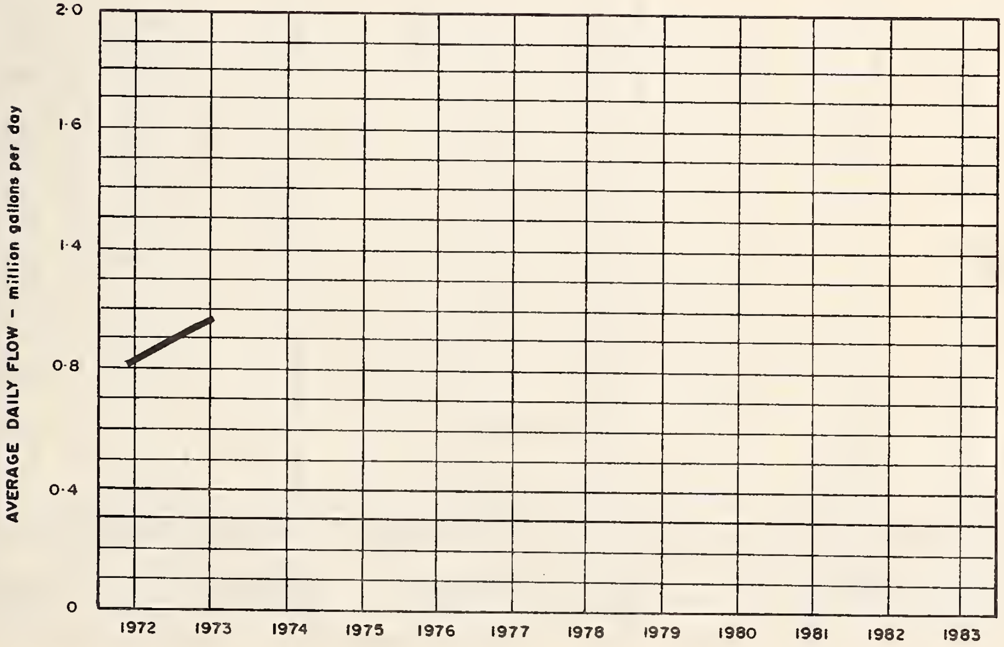
FILTERS

4, Type: HANKIN High Rate (Dual Media)
Capacity: (each) 1.0 MGD
Loading - Avg: 2 USGPM/Ft.^{2}
Max: 8 USGPM/Ft.^{2}
Area: 16' x 26'
Underdrain: Miller Block
Backwash Rate: 14 USGPM/Ft.^{2}
Jet Wash: PALMER surface wash

PROCESS DATA

FLOWS





DESIGN CAPACITY 4 MGD

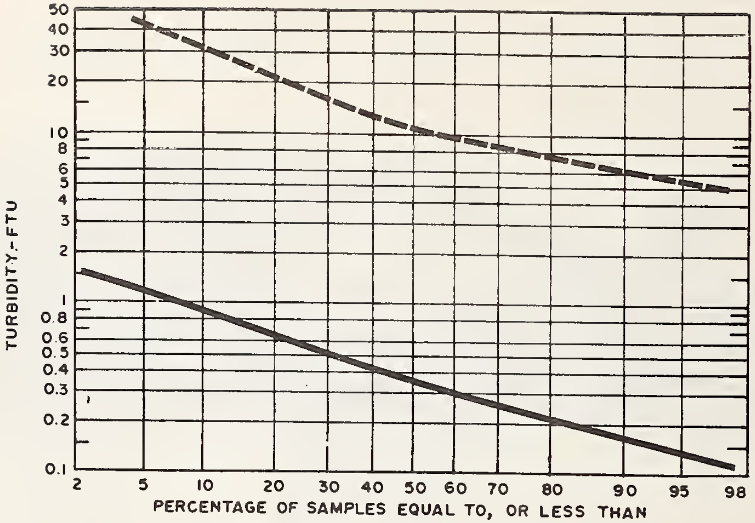
PLANT PERFORMANCE

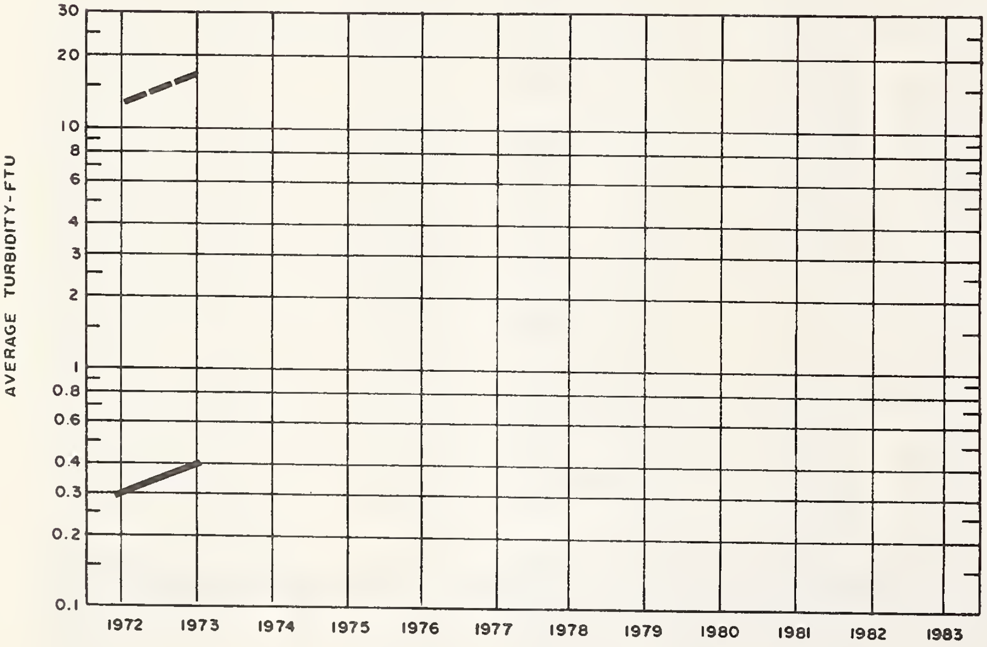
MONTH	FLOWS				RAW WATER		TREATED WATER					
							TURBIDITY		COLOUR		TEMPERATURE	
	TOTAL PLANT OUTPUT million gallons	AVERAGE DAILY FLOW million gallons	MAXIMUM DAY'S FLOW million gallons	MAXIMUM RATE mgd	TURBIDITY (AVERAGE) FTU	COLOUR (AVERAGE) App. units	AVERAGE FTU	MAXIMUM FTU	AVERAGE App. units	MAXIMUM App. units	AVERAGE °F	MAXIMUM °F
JAN	26.51	0.85	0.98	2.5	15		0.2	0.6			36	37
FEB	25.35	0.90	1.01	2.5	10		0.2	0.3			36	36
MAR	28.00	0.90	1.03	2.5	40		0.3	0.6			41	45
APR	27.95	0.93	1.04	2.5	33		1.0	2.6			45	53
MAY	29.68	0.95	1.07	2.5	14		0.3	0.5			56	59
JUNE	30.02	1.00		2.5	10		0.4	1.6			68	70
JULY	29.62	0.95	1.11	2.5	11		0.4	0.7			71	75
AUG	34.17	1.10	1.46	2.5	8		0.2	2.6			75	77
SEPT	37.28	1.24	1.44	2.5	8		0.4	0.9			69	78
OCT	29.27	0.94	1.21	2.5	9		0.6	1.1			63	66
NOV	25.58	0.85	0.93	2.5	14		0.5	0.7			51	58
DEC	25.78	0.94	0.94	2.5	16		0.4	1.6			54	78
TOTAL	349.21											
AVG.		0.96	MAXIMUM 1.46	MAXIMUM 2.5	15		0.4	MAXIMUM 2.6		MAXIMUM	55	MAXIMUM 78

CHLORINATION and DISINFECTION

MONTH	RAW WATER					PLANT EFFLUENT		DISTRIBUTION SYSTEM		CHLORINATION			
	NUMBER OF SAMPLES HAVING TOTAL COLIFORM ORGANISMS PER 100 ml OF					NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	NUMBER OF SAMPLES TAKEN	NUMBER HAVING COLIFORM ORGANISMS	TOTAL AMOUNT OF CHLORINE USED pounds	DOSAGE		RESIDUAL IN PLANT EFFLUENT mg/l
	0	1 - 3	4 - 32	33 - 320	> 320						PRE - mg/l	POST - mg/l	
JAN	0	0	0	1	4	5	0	16	0	825	2.6	0.4	0.6
FEB	0	0	0	0	4	4	0	12	0	735	2.4	0.4	0.6
MAR	0	0	0	0	4	4	0	12	0	1290	3.9	0.4	0.6
APR	0	0	0	0	4	4	0	13	0	1145	3.4	0.4	0.6
MAY	0	0	0	1	4	5	0	16	0	1050	3.0	0.4	0.6
JUNE	0	0	0	1	4	4	0	12	0	1175	3.5	0.4	0.6
JULY	0	0	0	0	4	4	0	17	1	1345	4.0	0.4	0.6
AUG	0	0	0	0	5	5	0	14	1	1450	3.7	0.4	0.6
SEPT	0	0	0	0	4	4	0	12	0	1370	3.1	0.4	0.6
OCT	0	0	0	0	5	5	0	15	0	855	3.9	0.4	0.6
NOV	0	0	0	0	4	4	0	12	0	700	2.1	0.4	0.6
DEC	0	0	0	0	4	4	0	12	0	570	1.7	0.4	0.6
TOTAL	0	0	0	3	50	52	0	163	2	12510			
AVG.	875 (NOTE - Average shown is the GEOMETRIC MEAN)									34 pounds per day	3.1	0.4	0.6

TURBIDITY





PLANT INFLUENT - - - - - - -

PLANT EFFLUENT ————

TREATMENT DATA

MONTH	CHEMICALS USED										
	ALUM		SODIUM SILICATE		SODIUM BICARBONATE		FLUOSILICIC ACID		FILTER OPERATION		
	AMT. USED gallons	DOSAGE mg/l	AMT. USED gallons	DOSAGE mg/l	AMT. USED pounds	DOSAGE mg/l	AMT. USED pounds	DOSAGE mg/l	AVERAGE RUN hours	AVERAGE TURBIDITY FTU	BACKWASH WATER mil. gal.
JAN	628	16	71	0.6	236	2.0	0		48	2.5	1.43
FEB	564	15	115	0.5	381	1.5	0		72	1.6	0.92
MAR	1593	37	177	0.6	579	2.0	0		72	4.4	1.54
APR	1537	36	194	0.7	643	2.3	0		72	7.9	1.18
MAY	1372	30	124	0.6	715	3.4	0		72	2.5	1.33
JUNE	1303	28	0		0		17	1.7	72	3.0	1.58
JULY	1499	32	0		0		698	2.3	72	3.3	1.38
AUG	1628	31	0		0		1159	3.4	72	1.4	1.34
SEPT	1811	32	0		0		1749	4.7	72	3.1	2.07
OCT	1513	34	83	0.6	34	0.3	1567	5.4	72	4.7	1.81
NOV	1304	33	177	0.7	593	2.3	992	2.4	72	4.1	1.22
DEC	1378	34	184	0.7	609	2.3	976	3.7	72	4.0	1.53
TOTAL	16130		1125		3790		7158				17.33
AVG.		30		0.6		2.0		3.6	70	3.5	

WATER QUALITY

PROPERTY	RAW WATER				TREATED WATER				DESIRABLE STANDARDS
	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	NUMBER OF SAMPLES	AVERAGE	MAXIMUM	MINIMUM	
HARDNESS in mg/l as $CaCO_3$	23	112	138	102	27	113	128	100	80 – 100
ALKALINITY in mg/l as $CaCO_3$	23	83	95	80	27	77	90	67	30 – 100
IRON in mg/l Fe	23	.91	5.90	0.20	27	< .05	1.40	<.05	Less than 0.3
CHLORIDE in mg/l Cl^-	23	25	38	15	27	23	33	16	Less than 250
pH in pH units	23	7.8	8.3	0.6	27	7.3	7.9	6.5	7.0 – 8.5
FLUORIDE in mg/l F^-	23	0.1	0.6	0.1	25	0.3	1.0	0.1	Less than 1.2

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